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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,890

06/25/2003

Gabriel Eugen Tanase

55123P253

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07/21/2004

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EXAMINER

LAM, TUAN THIEU

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/603,890

**Applicant(s)**

TANASE, GABRIEL EUGEN

**Examiner**

Tuan T. Lam

**Art Unit**

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-13 is/are allowed.
- 6) ☒ Claim(s) 1-9, 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/3/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

This is a response to the response to the election/restriction requirement filed 6/2/2004.

Claims 1-9 and 11-20 are under examination.

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations of "second current sense circuit" and "third current sense circuit" of claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9, 15-16 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of “first biasing circuitry biasing the first and second transistors to operate with equal first to second terminal voltages; a first control loop responsive to a reference voltage to clamp the first to second terminal voltages of the first and second transistors to a predetermined voltage” is indefinite because it is unclear if the first biasing circuitry is belonged to the first control loop or the first biasing circuitry is a separate circuit from the first control loop. As seen from figure 2, the first and second transistors is biased with the output of the transistor P6. At the same time, the specification discloses the first control loop comprises P1, P2, P3, P5 and P6. Thus, it is not clear if the first biasing circuitry is belonged to the first control loop or the first biasing circuitry is a separate circuit from the first control loop. Thus, the metes and bounds of the claim can not be determined. Applicant is required to particularly point out the first biasing circuitry and the first control loop.

In claim 5, the recitation of “second biasing circuitry biasing the sense circuit output current to a zero current when a load current is zero” is indefinite because it is unclear if the second biasing circuitry is belonged to the second control loop (as recited in claim 1) or the first biasing circuitry is a separate circuit from the first control loop. As seen from figure 2, the output current is generated by the transistor P8. The transistor P8 is also biased by the output of

Art Unit: 2816

the transistor P7. At the same time, the specification discloses the second control loop comprises P1, P2, P3, P7 and P8. Thus, it is not clear if the second biasing circuitry is belonged to the second control loop or the second biasing circuitry is a separate circuit from the second control loop. Thus, the metes and bounds of the claim can not be determined. Applicant is required to particularly point out the second biasing circuitry and the second control loop.

In claim 6, the recitation of “the voltage of a second power supply” in line 4 is indefinite because it is unclear as to if this voltage is the same as the reference voltage recited in claim 1, line 17 or is an addition voltage to the reference voltage. Clarification is required. The recitation of “a third control loop” in line 5 is indefinite because it is unclear as to how the third loop is read onto figure 2 of the present invention. Applicant is required to particularly point out the first to third control loops as recited in claims 1 and 6.

Claim 7 is rejected as being indefinite for the same reasons as stated in claims 1 and 5.

In claim 15, the recitation of “the output current is proportional to the current in the transistor” is indefinite because it is misdescriptive. As disclosed in the specification, page 7, line 1, the output current is linearly proportional to the input current  $I_n$ . Clarification is required.

In claim 20, the recitation of “providing an output that varies linearly with the current in the second transistor” is indefinite because it is misdescriptive of the present invention. As disclosed in the specification, page 7, line 1, the output current is linearly proportional to the input current  $I_n$ . Clarification is required.

Claims 2-4, 8-9, 16 and 20 are indefinite because of the technical deficiencies of claims 1, 15 and 19.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bynum (USP 5,801,523).

Figure 2 discloses a method of current sensing comprising passing the current ( $I_{in}$ ) to be sensed through a transistor (36), controlling the transistor with the voltage at the junction of transistors 32 and 34 so that the drop (drain to source) across the transistor is independent of the current to be sense ( $I_{in}$ ), providing an output current ( $I_{out}$ ) responsive to the current in the transistor ( $I_{out}$  is proportional to  $I_{in}$ ) as called for in claims 14-16 and 18.

Regarding claim 17, the replicating the current is done by the transistor 40 providing output current responsive to the current in the transistor comprises providing an output responsive to the replica current.

***Allowable Subject Matter***

5. Claims 1-9 and 19-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

6. Claims 11-13 are presently allowed.

***Conclusion***

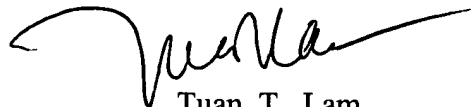
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2816

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam  
Primary Examiner  
Art Unit 2816

7/19/2004